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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/710,696	07/29/2004	Kuo-Chung Yee	13184-US-PA	4695

31561	7590	09/25/2007
JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE		
7 FLOOR-1, NO. 100		
ROOSEVELT ROAD, SECTION 2		
TAIPEI, 100		
TAIWAN		

EXAMINER	
MATTHEWS, COLLEEN ANN	

ART UNIT	PAPER NUMBER
2811	

NOTIFICATION DATE	DELIVERY MODE
09/25/2007	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USA@JCIPGROUP.COM.TW

# Office Action Summary

Application No.

10/710,696

Applicant(s)

YEE ET AL.

Examiner

Colleen A. Matthews

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 17-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 17-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

  
LYNNE GURLEY

SUPERVISORY PATENT EXAMINER

AU 2811, TC 2800

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06/01/2007 has been entered.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph**, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

**Regarding claim 1**, the claim recites the limitation that the spacers are "surrounded by the glue" (lines 5-6) and then goes on to recite the "spacers are directly contacted with the dielectric substrate and the wafer" (lines 9-10). In order for both limitations to be satisfied the glue must not entirely surround the spacer and accordingly it is unclear the requisite amount of glue that applicant desires to surround the spacers and also allow for direct contact with the dielectric substrate and the wafer.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 10-14 and 17-21 are rejected under 35 U.S.C. 103(a)** as being unpatentable over U.S. Pub. No. 2006/0030074 to Mund et al. (Mund) in view of U.S. Pub. No. 2004/0137723 to Noma et al. (Noma).

**Regarding claim 10**, Mund discloses a device grinding process comprising the steps of:

providing a wafer (Fig 9 element 312) having a plurality of chip units thereon, wherein the surface of each chip unit has at least a device (element 318);

attaching a dielectric substrate (302) over the device on the surface of the wafer by an amount of glue, such that a constant gap (H') is maintained between the dielectric substrate and the wafer, wherein the glue (314) comprises a plurality of spacers (310) surrounded by the glue therein; and

grinding (paragraph 0111, lines 10) the surface of the dielectric substrate away from the wafer or the surface of the wafer away from the dielectric substrate.

Mund fails to explicitly disclose the grinding of the surface of the dielectric substrate or wafer after attaching a dielectric substrate over the device on the surface of the wafer. Noma discloses a wafer (Figure 1 element 1a) and attaching a dielectric substrate (Figure 2 element 4) and grinding of the surface of the wafer (shown in Figure

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2, paragraph [0034]) after attaching the dielectric substrate (4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Mund to have the grinding of the surface of the wafer after attaching the dielectric substrate as in Noma in order to have the dielectric substrate provide device support during the grinding process.

**Regarding claim 11**, Mund discloses where the device comprises a photoelectric device (318).

**Regarding claim 12**, Mund discloses the photoelectric device grinding process where the photoelectric device comprises an image sensor (Figure 9 element 318, paragraph 0011, line 6).

**Regarding claim 13**, Mund discloses the photoelectric device grinding process where the photoelectric device comprises a micro-mechanical structure (paragraph 0021 and 0022).

**Regarding claim 14**, Mund discloses the device grinding process where the micro-mechanical structure (Fig 9, element 318) protrudes from the surface of the wafer (312) by a height smaller than the gap (H') between the dielectric substrate (302) and the wafer (312).

**Regarding claim 17**, Mund discloses the device grinding process where the spacers are silicon oxide (paragraph 0025 lines 1-3).

**Regarding claim 18**, Mund discloses the device grinding process where the material constituting the glue is selected from the group of ultraviolet cured plastic and epoxy resin (epoxy; paragraph 0105 line 1).

**Regarding claim 19**, Mund discloses the device grinding process where the step of grinding the dielectric substrate or the wafer comprises mechanical grinding (paragraph 0111, lines 10).

**Regarding claim 20**, Mund discloses the device grinding process where the dielectric substrate comprises a glass substrate or silicon substrate (element 302, glass; paragraph 0111 line 1).

**Regarding claims 21**, Mund discloses the device grinding process where the glue (Figure 9 element 314), each chip unit (312) and the dielectric substrate (302) together form at least a sealed chamber (316) such that the photoelectric device (318) is enclosed within the sealed chamber.

### ***Response to Arguments***

Applicant's arguments filed 06/01/2007 have been fully considered but they are not persuasive.

Applicant argues (Remarks page 7 point 3) that Mund's glue 314 does not contain the spacer 310. Examiner notes the claim language involves the use of "surrounds" is not limited to fully surrounding and the claim language does not recite "contained." Additionally the examiner notes that in applicant's Figures 1C, 1D, 2B, 2C part of the spacer, where adjoining to the substrate and the wafer, is not surrounded by the glue.

Applicant's remaining arguments with respect to claims 1 and 10 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Pat. No. 5,101,099 to Funada et al. discloses spacers (31) surrounded by adhesive (30) in Figure 6.

U.S. Pat. No. 4,565,928 to Yamamoto et al. discloses spacers (20) surrounded by adhesive (13) in Figure 10.

U.S. Pub. No. 2006/0043555 to Liu filed after this application does not qualify as prior art but is relevant art due to its use of spacers (104) with an adhesive (106) surrounding and in direct contact with both a substrate and wafer.

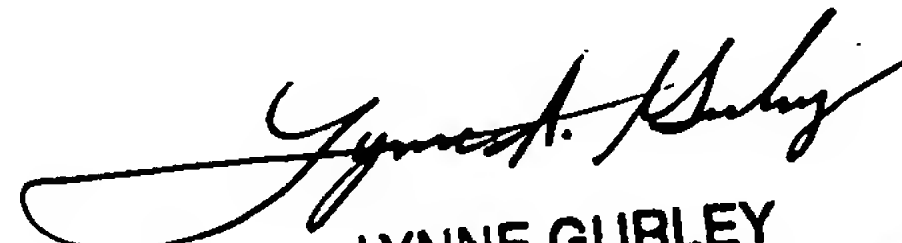
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Colleen A. Matthews whose telephone number is 571-272-1667. The examiner can normally be reached on Monday - Friday 8AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Gurley can be reached on 571-272-1670. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CAM  
09/16/2007

  
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